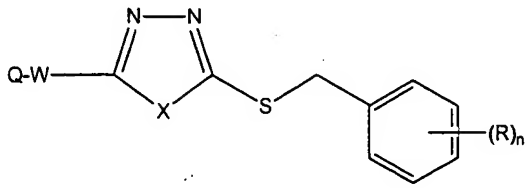
We claim:

1. A method of treating a disease treatable by the inhibition of the glycine transporter 2 (GlyT2) by administering a therapeutically effective amount of a compound of Formula I:



Formula I

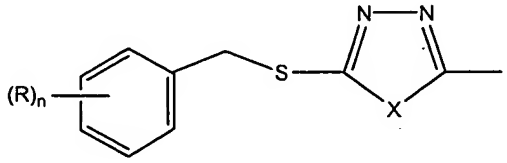
where:

n is 0, 1, 2 or 3;

each R is independently halogen, hydroxy, lower alkyl optionally substituted with halogen, or lower alkoxy optionally substituted with halogen;

X is O, S or N—R' (where R' is lower alkyl, aryl, heteroaryl, aryl-lower alkylene or heteroaryl-lower alkylene);

Q may be absent or present, and when present is represented by the formula:



in which n, R and X are as defined above;

when Q is present, W is a lower alkylene, and

when Q is absent, W is optionally substituted lower alkyl, optionally substituted aryl, optionally substituted heteroaryl, (optionally substituted aryl)—X—CH_2— or (optionally substituted heteroaryl)—X—CH_2— in which X is as defined above,

or a pharmaceutically acceptable salt thereof.

2. The method of Claim 1 where the disease is a nervous disorder.

3. The method of Claim 1 where the disease is a muscular disorder.

4. The method of Claim 1 wherein the disease is a disorder selected from the group consisting of psychoses, pain, epilepsy, neurodegenerative diseases, stroke, head trauma, multiple sclerosis, spasticity and myoclonus.

5. The method of Claim 1 where X is N—R′ in which R′ is methyl, ethyl, phenyl, or benzyl, n is 0, 1 or 2, R is chlorine or methyl, Q is absent, and W is aryl, optionally substituted heteroaryl or (optionally substituted heteroaryl)—X—CH_2—.

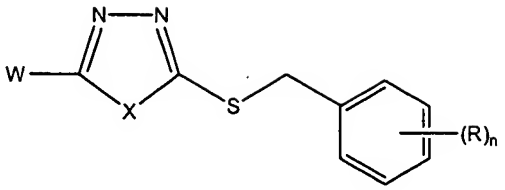
6. The method of Claim 5 where the compound is selected from
3-[(2,6-dichlorophenyl)methylthio]-5-(thien-2-ylthiomethyl)-4-methyl-1,2,4-triazole,
3-benzylthio-5-(thien-2-ylthiomethyl)-4-methyl-1,2,4-triazole,
3-(4-methylbenzylthio)-5-(thien-2-ylthiomethyl)-4-methyl-1,2,4-triazole,
3-[(2,6-dichlorophenyl)methylthio]-5-(thien-2-ylthiomethyl)-4-ethyl-1,3,4-triazole,
3-benzylthio-5-(2-ethyl-5-methyl-3-diazolyl)-4-phenyl-1,2,4-triazole, and
3-[(2,6-dichlorophenyl)methylthio]-5-phenyl-4-benzyl-1,3,4-triazole.

7. The method of Claim 1 where X is S, n is 0, 1 or 2, R is chlorine, Q is absent, and W is aryl or heteroaryl.

8. The method of Claim 7 where the compound is selected from
2-[(2,6-dichlorophenyl)methylthio]-5-(pyrazin-2-yl)-1,3,4-thiadiazole,
2-(benzylthio)-5-phenyl-1,3,4-thiadiazole,
2-(benzylthio)-5-(pyridin-3-yl)-1,3,4-thiadiazole,
2-[(2,6-dichlorophenyl)methylthio]-5-phenyl-1,3,4-thiadiazole, and
2-(benzylthio)-5-(pyrazin-2-yl)-1,3,4-thiadiazole.

9. The method of Claim 1 where the compound is 2,2′-(1,4-butanediyl)-bis[5-(benzylthio)-1,3,4-oxadiazole].

10. A compound of Formula II:



Formula II

where:

each R is independently halogen, hydroxy, lower alkyl optionally substituted with halogen or lower alkoxy optionally substituted with halogen;

X is S or N—R′ (where R′ is lower alkyl, aryl, heteroaryl, aryl-lower alkylene, or heteroaryl-lower alkylene);

when X is S, n is 1, 2 or 3, and W is an optionally substituted heteroaryl having at least two heteroatoms, and

when X is N—R′, n is 0, 1, 2 or 3, and W is (optionally substituted heteroaryl)—S—CH_2— where the heteroaryl has five ring atoms including one heteroatom;

or a pharmaceutically acceptable salt thereof.

11. The compound of Claim 12 that is 3-[(2,6-dichlorophenyl)methylthio]-5-(pyrazin-2-yl)-1,2,4-triazole.

12. A pharmaceutical composition comprising a pharmaceutically acceptable excipient and, as the active ingredient, a compound of Claim 11.

13. The pharmaceutical composition of Claim 12 where the compound is 3-[(2,6-dichlorophenyl)methylthio]-5-(pyrazin-2-yl)-1,2,4-triazole.

14. A method of inhibiting the glycine transporter 2 (GlyT2) in a cell having a GlyT2, comprising contacting the cell with a compound of Claim 1 in an amount sufficient to inhibit GlyT2.

15. The method of Claim 14 wherein the cell is present in a living animal, and wherein the step of contacting the cell with a compound of Claim 1 comprises administering to an animal an effective amount of the compound.

16. The method of Claim 14 wherein the cell is not present in a living animal, and wherein the step of contacting the cell with a compound of Claim 1 comprises administering an effective amount of the compound to the cell or to a solution bathing the cell.

17. A method of discovering an agent that shows improved activity in an assay for inhibition of the glycine transporter, comprising the steps of obtaining the results of the assay in the presence of a plurality of concentrations of a compound of Claim 1, obtaining the results of the assay in the presence of a plurality of concentrations of a test compound, comparing the results of the assays, and identifying as an agent that shows improved activity in the assay a test compound from which the results obtained in the assay were improved compared to the results obtained with the compound of Claim 1.

18. The method of Claim 17 where the glycine transporter is selected from the group consisting of the glycine transporter 2 and a strychnine sensitive glycine transporter.

19. A method of discovering an agent that show improved activity in an assay for inhibition of glycine transporter mediated neuronal activity, comprising the steps of obtaining the results of the assay in the presence of a plurality of concentrations of a compound of Claim 1, obtaining the results of the assay in the presence of a plurality of concentrations of a test compound, comparing the results of the assays, and identifying as an agent that shows improved activity in the assay a test compound from which the results obtained in the assay were improved compared to the results obtained with the compound of Claim 1.

20. The method of Claim 19 where the glycine transporter mediated neuronal activity is selected from the group consisting of GlyT2 mediated neuronal activity and strychnine sensitive glycine transporter mediated neuronal activity.

21. A method of discovering an agent that displays activity in a bioassay for inhibition of the glycine transporter, comprising applying an algorithm to compare the chemical structures or chemical properties within a library of test compounds with the chemical structure or chemical properties of a compound of Claim 1, and identifying as an agent that displays activity in the bioassay a test compound determined by the algorithm to have a chemical structure or chemical properties similar to the compound of Claim 1.

22. The method of Claim 21 where the glycine transporter is selected from the group consisting of the glycine transporter 2 and a strychnine sensitive glycine transporter.

23. A method of discovering an agent that displays activity in a bioassay for inhibition of glycine transporter mediated neuronal activity, comprising applying an algorithm to compare the chemical structures or chemical properties within a library of test compounds with the chemical structure or chemical properties of a compound of Claim 1, and identifying as an agent that displays activity in the bioassay a test compound determined by the algorithm to have a chemical structure or chemical properties similar to the compound of Claim 1.

24. The method of Claim 23 where the glycine transporter mediated neuronal activity is selected from the group consisting of glycine transporter 2 mediated neuronal activity and strychnine sensitive glycine transporter mediated neuronal activity.

25. A method of discovering an agent that displays activity in a bioassay for inhibition of the glycine transporter, comprising applying an algorithm to compare and/or match the chemical structures within a library of test compounds with the chemical structure of a compound of Claim 1 for the purpose of modeling molecular interactions, and identifying as an agent that displays activity in the bioassay a test compound determined by the algorithm to have a chemical structure comparable to or matching the compound of Claim 1.

26. The method of Claim 25 where the glycine transporter is selected from the group consisting of the glycine transporter 2 and a strychnine sensitive glycine transporter.

27. A method of discovering an agent that displays activity in a bioassay for inhibition of glycine transporter mediated neuronal activity, comprising applying an algorithm to compare and/or match the chemical structures within a library of test compounds with the chemical structure of a compound of Claim 1 for the purpose of modeling molecular interactions, and identifying as an agent that displays activity in the bioassay activity a test compound determined by the algorithm to have chemical structure comparable to or matching the compound of Claim 1.

28. The method of Claim 27 where the glycine transporter mediated neuronal activity is selected from the group consisting of glycine transporter 2 mediated neuronal activity and strychnine sensitive glycine transporter mediated neuronal activity.